

the Jenissei in 1875; and these yielded the new forms, *Leperditia Nordenskjoeldi*, Schmidt, Suppl. p. 25, pl. i. figs. 29-32; *L. waigatschensis*, p. 27, pl. i. figs. 33 a-c; and *L. Lindströmi*, p. 85, pl. v. a, figs. 17-20, with its variety *mutica*, p. 86, pl. v. a, figs. 21, 22.

The second portion of this Part III. of the "Miscellanea Silurica" deals with the Crustacean Fauna of the *Eurypterus*-beds of Rootziküll in the island of Oesel, at the mouth of the Gulf of Riga, Baltic Provinces.

After some remarks (pp. 28-31) on the strata themselves, their fossil contents, and the results of their careful examination by himself and others, M. Schmidt treats of the HEMIASPIDÆ (pp. 31-34), with their history and characteristics, as shown in the three genera which he refers to this family, namely:—*Pseudoniscus*, Nieszkowski; *Hemiaspis*, H. Woodward; and *Bunodes*, Eichwald. The last genus is described with three species:—*B. lunula*, Eichw., p. 35, pl. i. figs. 34-38, and pl. vii. figs. 1-6; *B. Schrencki*, Nieszk. (*B. lunula*, var. *Schrencki*, Nieszk., in the explanation of plate i. and in the Contents), p. 38, pl. i. figs. 39-43; *B. rugosus*, Nieszk., p. 39, pl. i. figs. 44-47. *Pseudoniscus aculeatus*, Nieszk., is figured and described p. 40, pl. i. figs. 48, 49. The organization and systematic place of the Hemiaspids are treated at pp. 43-46.

The EURYPTERIDÆ and their relationships are discussed at pp. 46-48, and the genus *Eurypterus* described, with two species (*E. Fischeri*, Eichw., with its var. *rectangularis*, and *E. laticeps*), in detail, at pp. 48-64, pls. ii., iii., iii. a, and vi. figs. 6, 7. The history and structure of *Pterygotus* follow (pp. 64 &c.), with a detailed description and full illustration of *Pt. osiliensis*, sp. nov. (pp. 70 &c., pls. iv., v., v. a, figs. 1-16, pl. vi. figs. 1, 2, 3 (var. *laticauda*), 4, 5, and pl. vii. figs. 7, 8, 10, 11, and five woodcuts).

A few, but characteristic, specimens of a *Ceratiocaris* have also been discovered at Rootziküll, in Oesel (p. 83); and these, carefully figured by M. Schmidt in his pl. vi. fig. 8 (telson and two lateral cercopods), fig. 9 (telson spine), pl. vii. fig. 12 (left valve of a carapace), have been referred by him to a new species, *C. Nœllingi* (p. 84, with woodcut, fig. 5), which, as the author observes, is closely related to the English *C. leptodactylus*, M'Coy.

These two memoirs, so highly creditable to the Imperial Academy, as results of the palæontological research of one of its active members, have been written with care and exactitude, both as to the observation and collection of facts and the recognition and critical examination of the labours of other palæontologists. The printing is good, the woodcuts are neat, and the numerous and large plates are beautifully delicate, elaborate, and trustworthy.

Proceedings of the Bristol Naturalists' Society. New Series, vol. iv. part i. (1882-83). 8vo. 1883.

IN Natural History this Society has interested itself in many biological and physical subjects during the Session, as appears from the

Reports of the Meetings, pp. 61 &c., and has printed in this volume some very interesting notes:—on a remarkable colony of Alien Plants on an old heap of colliery (?) rubbish at Kingswood (J. W. White); on the Fungi of the Bristol district, part 6 (C. Bucknall); on Ridgway's Catalogue of North-American Birds (H. J. Charbonnier), treating forcibly of the necessity of restraining and limiting the making of genera and species out of closely allied forms, and advocating the *trinomial* system; on the porosity and density of rocks with regard to Water-supply (E. Wethered); on the Iron-turnings Cells and the supposed influence of Points in the liberation of Bubbles (A. M. Worthington); on an apparatus for observing Splashes (A. M. Worthington); the first Telephone (S. P. Thompson); the Rainfall at Clifton (G. F. Burder); and Meteorological Observations, as regards Temperature, at Clifton (H. B. Jupp). Part iii. of the Flora [living] of the Bristol Coal-field, edited by J. W. White, and enumerating the Corallifloræ, forms part of this volume.

Journal of the Royal Geological Society of Ireland. Vol. xvi. part ii.;
ii. s. vol. vi. part ii. for 1881–82. 8vo. 1882.

Transactions of the Geological Society of Glasgow. Vol. vii. part i.
for 1880–82. 8vo. 1883.

IN his Presidential Address, February 20, 1882, the Rev. Dr. Haughton, F.R.S. &c., sketching the progress of the Royal Geological Society of Ireland, pointed out (1) that the popularity of the "original Dublin Geological Society" was due to an unfounded hope that geologists would find coals and minerals sufficient to enable Ireland to compete with the rest of the British Isles in industrial pursuits and in consequent wealth; (2) that the preponderance of physical and stratigraphical over paleontological papers in the 'Transactions' is due to the comparative absence of Secondary and Tertiary strata in Ireland. Dr. Haughton next proceeded to the discussion of the "two speculative problems which await their solution and must occupy a foremost place in the geological discussions of the next fifty years:—I. The absolute duration of Geological Time. II. The physical causes of the Changes of Climate which have, beyond question, taken place in the higher latitudes of the Earth's Surface."

The first of these problems was treated by the Rev. Maxwell H. Close in his Presidential Address in 1878; and arguments in favour of the great duration of geological time have been based on:—1. The time requisite for the cooling down of the Sun. 2. The present figure of the Earth as compared with its present rate of rotation. 3. The estimate of Geological Time derived from the rate of increase of terrestrial temperature with depth. Dr. Haughton intimates that he has some further evidence in support of the last view. He further draws attention to the important department of research which he terms "Empirical Cosmogony," as elucidated by Mr.